## SUPPORT FOR THE AMENDMENTS

The present amendment cancels claims 1-8, and adds new claims 9-28.

Support for newly added claims 9-11, 13, 14, 19-21, 23 and 24 is found at specification page 14, lines 6-9, 13-16 and 20-25, page 15, lines 17-20, page 48, lines 5-12 and 24-25, page 49, lines 1-8, as well as original claims 1-3 and 5.

Support for newly added claims 12 and 22 is found at specification page 14, lines 20-22, page 16, lines 1-6.

Support for newly added claims 15 and 25 is found at specification page 6, lines 1-4, as well as original claim 4.

Support for newly added claims 16 and 26 is found at specification page 6, lines 8-25, page 7, lines 1-15, page 16, lines 7-25, page 17, lines 1-23, as well as original claim 6.

Support for newly added claims 17 and 27 is found at specification page 20, lines 21-25, page 21, lines 1-25.

Support for newly added claims 18 and 28 is found at specification page 8, lines 1-6, page 53, last two lines, as well as original claims 7 and 8.

It is believed that these amendments have not resulted in the introduction of new matter.

## REMARKS

Claims 9-28 are currently pending in the present application. Claims 1-8 have been cancelled, and new claims 9-28 have been added, by the present amendment.

The rejection of now cancelled claims 1-8 under 35 U.S.C. §§ 102(b) and/or 103(a) as being anticipated and/or obvious over each of Abe (U.S. Patent 5,218,048) and Iwata (U.S. Patent 5,430,080) is respectfully traversed, with respect to new claims 9-28.

Abe and Iwata, when considered alone or in combination, fail to anticipate or render obvious the thermoplastic resin composition of the present invention comprising the claimed higher α-olefin polymer (3) comprising ≥ 50 mol % of an α-olefin having 10 or more carbon atoms, wherein the higher α-olefin polymer (3) has a stereoregularity index M2 of ≥ 50 mol % and a single melting point ($T_m$) of 0°C to 100°C.

New claim 9 recites a thermoplastic resin composition comprising: 30-98 wt. % of a thermoplastic resin (1); and 2-70 wt. % of a higher α-olefin polymer (3) comprising ≥ 50 mol % of an α-olefin having 10 or more carbon atoms, wherein the higher α-olefin polymer (3) has a stereoregularity index M2 of ≥ 50 mol % and a single melting point ($T_m$) of 0°C to 100°C.

New claim 19 recites a thermoplastic resin composition comprising: 10-94 wt. % of a thermoplastic resin (1); 5-70 wt. % of an elastomer (2); and 1-30 wt. % of a higher α-olefin polymer (3) comprising ≥ 50 mol % of an α-olefin having 10 or more carbon atoms, wherein the higher α-olefin polymer (3) has a stereoregularity index M2 of ≥ 50 mol % and a single melting point ($T_m$) of 0°C to 100°C.

Unlike the claimed invention, Abe describes a resin composition comprising: 100 wt. % of a thermoplastic resin (A); 0.1-30 wt. % of a functional compound (B) having one or more bonds or one or more functional groups selected from the group consisting of organic groups having non-aromatic carbon-carbon multiple bonds, oxirane groups and substituted carboxyl groups; and 0.001-20 wt. % of a diamino compound (C) represented by the following general formula $R^1$-NH-X-NH-

$R^{II}$ (See e.g., abstract; column 11, lines 21-27). The thermoplastic resin (A) comprises: 1-100 wt. % of a polyolefin resin; 0-99 wt. % of an optional thermoplastic resin other than the polyolefin resin; and 0-70 wt. % of an optional elastomer (See e.g., column 3, lines 16-19 and 67-68, column 4, lines 1-5, column 11, lines 4-13). Although Abe generally describes that the polyolefin resin may include homopolymers and copolymers of α-olefins, such as ethylene, propylene, 1-butene, 1-pentene, 1-hexene, 3-methyl-1-butene, 4-methyl-1-pentene, 1-octene, 1-decene, 1-dodecene, 1-tetradecene, 1-hexadecene, 1-octadecene, and 1-eicosene, the preferred polyolefin resin of Abe includes homopolymers and copolymers of α-olefins selected from ethylene, propylene, 1-butene, 3-methyl-1-butene and 4-methyl-1-pentene (See e.g., column 3, lines 20-26 and 48-54). Moreover, the polyolefin resins exemplified in Abe are polypropylene and ethylene-propylene copolymers (See e.g., examples). The functional compound (B) includes α-olefins, such as 1-dodecene and 1-octadecene (See e.g., column 7, line 9).

Unlike the claimed invention, Iwata describes a flame-retardant thermoplastic resin composition comprising: 10-40 wt. % of a melaimine-coated ammonium phosphate polymer (A); 1-20 wt. % of a triazine-containing polymer (B); and 40-89 wt. % of a thermoplastic resin (C) (See e.g., abstract). Iwata generally describes that the thermoplastic resin (C) may include polymers of one or more α-olefins selected from the group consisting of ethylene, propylene, 1-butene, 4-methyl-1-pentene, 1-hexene, 1-octene and 1-decene. The preferred thermoplastic resin (C) of Iwata includes polypropylene, and a copolymer comprising propylene and one or more α-olefins selected from the group consisting of ethylene, 1-butene, 1-pentene, 1-hexene, 4-methyl-1-pentene, 1-heptene, 1-octene and 1-decene (See e.g., column 6, lines 65-68, column 7, lines 1-12). Moreover, the thermoplastic resins (C) exemplified in Iwata are polypropylene and ethylene-propylene copolymers (See e.g., examples).

Although Abe generally describes that the polyolefin resin may include polymers of α-olefins having from 2 to 20 carbon atoms, the preferred α-olefins exemplified in Abe only have

from 2 to 6 carbon atoms. Although Iwata generally describes that the polyolefin resin may include polymers of α-olefins having from 2 to 10 carbon atoms, the preferred α-olefins exemplified in Iwata only have from 2 to 3 carbon atoms.

Moreover, Abe and Iwata, when considered alone or in combination, fail to disclose or suggest that the α-olefin polymer: (1) comprises the α-olefin having 10 or more carbon atoms in an amount of ≥ 50 mol %; (2) has a stereoregularity index M2 of ≥ 50 mol %; and (3) has a single melting point ($T_m$) of 0°C to 100°C.

Based on the limited disclosures of Abe and Iwata, a skilled artisan would not have at once clearly envisaged the thermoplastic resin composition of the present invention comprising the claimed higher α-olefin polymer (3) comprising ≥ 50 mol % of an α-olefin having 10 or more carbon atoms, wherein the higher α-olefin polymer (3) has a stereoregularity index M2 of ≥ 50 mol % and a single melting point ($T_m$) of 0°C to 100°C, from either the broad genus of α-olefin polymers described, or the preferred α-olefin polymers exemplified, in Abe and Iwata. Accordingly, Abe and Iwata clearly fail to describe the thermoplastic composition of the present invention comprising the claimed higher α-olefin polymer (3) comprising ≥ 50 mol % of an α-olefin having 10 or more carbon atoms, wherein the higher α-olefin polymer (3) has a stereoregularity index M2 of ≥ 50 mol % and a single melting point ($T_m$) of 0°C to 100°C, with sufficient specificity to constitute an anticipation of the claims.

Abe and Iwata also fail to provide sufficient motivation and guidance to direct a skilled artisan to incorporate into the thermoplastic resin composition the claimed higher α-olefin polymer (3) comprising ≥ 50 mol % of an α-olefin having 10 or more carbon atoms, wherein the higher α-olefin polymer (3) has a stereoregularity index M2 of ≥ 50 mol % and a single melting point ($T_m$) of 0°C to 100°C, from either the broad genus of α-olefin polymers described, or the preferred α-olefin polymers exemplified, in Abe and Iwata. Therefore, the α-olefin polymers described in Abe and Iwata, when considered alone or in combination, fail to render obvious the thermoplastic

composition of the present invention comprising the claimed higher α-olefin polymer (3) comprising ≥ 50 mol % of an α-olefin having 10 or more carbon atoms, wherein the higher α-olefin polymer (3) has a stereoregularity index M2 of ≥ 50 mol % and a single melting point ($T_m$) of 0°C to 100°C. Since the aforementioned deficiencies in the disclosures of Abe and Iwata can not be overcome by mere presumption or conjecture, a *prima facie* case of obviousness has not been met.

It should also be mentioned that Applicants have discovered that the claimed higher α-olefin polymer (3) comprising ≥ 50 mol % of an α-olefin having 10 or more carbon atoms, wherein the higher α-olefin polymer (3) has a stereoregularity index M2 of ≥ 50 mol % and a single melting point ($T_m$) of 0°C to 100°C, may be produced with a polymerization catalyst represented by the general formulae (I) and (II), as claimed in claims 16,17, 26 and 27 and discussed in the present specification (See e.g., page 16, lines 1-22, page 20, lines 21-25, page 21, line 1). In contrast, Abe and Iwata fail to disclose or suggest that the α-olefin polymers described therein are produced with the claimed polymerization catalyst represented by the general formulae (I) and (II). Accordingly, there is no reasonable basis for a skilled artisan to conclude that the α-olefin polymers described in Abe and Iwata would comprise ≥ 50 mol % of an α-olefin having 10 or more carbon atoms, wherein the higher α-olefin polymer (3) has a stereoregularity index M2 of ≥ 50 mol % and a single melting point ($T_m$) of 0°C to 100°C, as claimed in claims 9 and 19.

As a result, Abe and Iwata, when considered alone or in combination, fail to anticipate or render obvious the thermoplastic resin composition of the present invention comprising the claimed higher α-olefin polymer (3) comprising ≥ 50 mol % of an α-olefin having 10 or more carbon atoms, wherein the higher α-olefin polymer (3) has a stereoregularity index M2 of ≥ 50 mol % and a single melting point ($T_m$) of 0°C to 100°C.

Assuming *arguendo* that sufficient motivation and guidance is considered to have been provided by Abe and/or Iwata to direct a skilled artisan to incorporate into the thermoplastic resin composition the claimed higher α-olefin polymer (3) comprising ≥ 50 mol % of an α-olefin having

10 or more carbon atoms, wherein the higher α-olefin polymer (3) has a stereoregularity index M2 of ≥ 50 mol % and a single melting point ($T_m$) of 0°C to 100°C, which is clearly not the case, such a case of obviousness is rebutted by a showing of superior properties and secondary considerations.

As discussed in the present specification, conventional thermoplastic resin compositions comprising a mixture of polymers suffer from not being able to simultaneously exhibit an excellent balance of enhanced impact resistance and improved uniform miscibility properties (See e.g., page 2, lines 16-25, page 3, lines 1-5, 14-17 and 24-25, page 4, lines 1-10). Accordingly, there has been a long-felt need to provide a thermoplastic resin composition comprising a mixture of polymers that simultaneously exhibits an excellent balance of enhanced impact resistance and improved uniform miscibility properties. Based on the limited disclosures of Abe and Iwata, and the conventional thermoplastic resin compositions described therein, other skilled artisans have failed to discover a solution to this long-felt need.

As shown in Table A below, which compiles into tabular form comparative experimental data presented in Tables 2 and 3 of the present specification, Applicants have discovered that superior properties with respect to an excellent balance of enhanced impact resistance and improved uniform miscibility properties are remarkably exhibited by incorporating the claimed higher α-olefin polymer (3) comprising ≥ 50 mol % of an α-olefin having 10 or more carbon atoms, wherein the higher α-olefin polymer (3) has a stereoregularity index M2 of ≥ 50 mol % and a single melting point ($T_m$) of 0°C to 100°C, into the thermoplastic composition of Example 2, in accordance with the present invention, as compared to the inferior impact resistance and non-uniform miscibility properties exhibited by the conventional thermoplastic composition of Comparative Example 2 (See e.g., page 4, lines 11-25, page 5, lines 1-7, page 59, lines 13-18, page 71, Tables 2 and 3).

| Table A | Thermoplastic Resin (1) (wt. %) | Elastomer (2) (wt. %) | Higher α-olefin polymer (3) (wt. %) | Miscibility (R) | Impact Strength (kJ/M) |
|---|---|---|---|---|---|
| Ex. 2 | 70.0 | 25.0 | 5.0 | 1.23 | 8.90 |
| Comp. Ex. 2 | 70.0 | 30.0 | 0.0 | 1.14 | 3.80 |

This evidence clearly demonstrates that a thermoplastic resin composition in accordance with the present invention comprising the claimed higher $\alpha$-olefin polymer (3) comprising $\geq$ 50 mol % of an $\alpha$-olefin having 10 or more carbon atoms, wherein the higher $\alpha$-olefin polymer (3) has a stereoregularity index M2 of $\geq$ 50 mol % and a single melting point ($T_m$) of 0°C to 100°C, remarkably exhibits an excellent balance of enhanced impact resistance and improved uniform miscibility properties, as compared to the inferior impact resistance and non-uniform miscibility properties exhibited by conventional thermoplastic compositions.

Withdrawal of these grounds of rejection is respectfully requested.

Applicants respectfully request that the provisional obviousness-type double patenting rejections of now cancelled claims 1-8 over claims 1-9 of copending application number 10/577,496 (U.S. 2007/0079825) be held in abeyance, with respect to new claims 9-28, until allowable subject matter in the present application is indicated.

In conclusion, Applicants submit that the present application is now in condition for allowance and notification to this effect is earnestly solicited.

Respectfully submitted,

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